

ABSTRACT

A lightweight bearing and wave gear drive are provided. An outer or inner bearing ring of the bearing has fixing holes to enable the ring to be attached to another member. The parts of the bearing on which raceway surfaces are formed are made of an iron-based material, while the main bearing ring member is formed of a lightweight material that is lighter than the iron-based material. Surface portions that constitute fixing bolt seats are plated to increase the strength of such portions. The wave gear drive includes a rigid internal gear, a flexible external gear located inside the internal gear, and a wave generator located inside the external gear. The internal and external gears are coupled by the lightweight bearing in a way that allows the gears to rotate relative to each other.